

## INTERNATIONAL SEARCH REPORT

 International Application No  
 PCT/NL 03/00020

## A. CLASSIFICATION OF SUBJECT MATTER

 IPC 7 G01N33/569 C12N5/10 C07K14/35 C12N15/31 C07K16/12  
 C12Q1/68 C12Q1/02 A61K39/04

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 C07K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, BIOSIS

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 92 16628 A (INNOGENETICS NV) 1 October 1992 (1992-10-01) cited in the application abstract page 5, last paragraph -page 6, line 16 page 18, line 19-26 page 20, line 29 -page 21, line 13 page 22 -page 27, line 29 page 58, line 31 -page 59, line 30; table 3 claims 1-28	1,12-16, 27-37
X	EP 0 288 306 A (MCFADDEN JOHN JO ;TAYLOR JOHN HERMON (GB)) 26 October 1988 (1988-10-26) cited in the application abstract column 7, line 51 -column 8, line 11 -/-	1,12-16, 27-37



Further documents are listed in the continuation of box C.



Patent family members are listed in annex.

## \* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"Z" document member of the same patent family

Date of the actual completion of the international search

25 June 2003

Date of mailing of the international search report

18.09.03

Name and mailing address of the ISA

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## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	KESEL DE M ET AL: "CLONING AND EXPRESSION OF PORTIONS OF THE 34-KILODALTON- PROTEIN GENE OF MYCOBACTERIUM PARATUBERCULOSIS: ITS APPLICATION TO SEROLOGICAL ANALYSIS OF JOHNE'S DISEASE" JOURNAL OF CLINICAL MICROBIOLOGY, WASHINGTON, DC, US, vol. 31, no. 4, April 1993 (1993-04), pages 947-954, XP000978898 ISSN: 0095-1137 cited in the application the whole document	1,12-16, 27-37
X	EL-ZAATARI FOUAD A K ET AL: "Characterization of a specific Mycobacterium paratuberculosis recombinant clone expressing 35,000-molecular-weight antigen and reactivity with sera from animals with clinical and subclinical Johne's disease." JOURNAL OF CLINICAL MICROBIOLOGY, vol. 35, no. 7, 1997, pages 1794-1799, XP002201774 ISSN: 0095-1137 the whole document	1,12-16, 27-37

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Int. nat. Application No

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Patent document cited in search report		Publication date	Patent family member(s)	Publication date
WO 9216628	A	01-10-1992	AT 197069 T	15-11-2000
			AU 657743 B2	23-03-1995
			AU 1441092 A	21-10-1992
			DE 69231519 D1	23-11-2000
			DE 69231519 T2	31-05-2001
			WO 9216628 A1	01-10-1992
			EP 0577666 A1	12-01-1994
			ES 2152928 T3	16-02-2001
			US 6387372 B1	14-05-2002
EP 0288306	A	26-10-1988	AT 131533 T	15-12-1995
			AU 624574 B2	18-06-1992
			AU 1628688 A	02-12-1988
			CA 1340172 C	08-12-1998
			DE 3854767 D1	25-01-1996
			DE 3854767 T2	05-09-1996
			DK 524289 A	22-12-1989
			EP 0288306 A1	26-10-1988
			EP 0356450 A1	07-03-1990
			WO 8808456 A1	03-11-1988
			JP 3503837 T	29-08-1991
			NO 885756 A	23-02-1989
			NZ 224351 A	21-12-1990
			US 5225324 A	06-07-1993

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ational application No.  
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## Box I Observations where certain claims were found unsearchable (Continuation of Item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:
  
2. ☐ Claims Nos.:  
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
  
3. ☐ Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## Box II Observations where unity of invention is lacking (Continuation of Item 2 of first sheet)

This International Searching Authority found multiple inventions in this International application, as follows:

see additional sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
  
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
  
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
  
4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:  
1, 16 (complete), 12-15, 27-37 (partial)

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. Claims: 1, 16 (complete), 12-15, 27-37 (partial)

subject-matter relating to a nucleic acid sequence according to SEQ ID NO: 5, encoding an amino acid sequence according to SEQ ID NO: 6.

2. Claims: 2, 17 (complete), 12-15, 27-37 (partial)

subject-matter relating to a nucleic acid sequence according to SEQ ID NO: 3, encoding an amino acid sequence according to SEQ ID NO: 4.

3. Claims: 3, 18 (complete), 12-15, 27-37 (partial)

subject-matter relating to a nucleic acid sequence according to SEQ ID NO: 1, encoding an amino acid sequence according to SEQ ID NO: 2.

4. Claims: 4, 19 (complete), 12-15, 27-37 (partial)

subject-matter relating to a nucleic acid sequence according to SEQ ID NO: 7, encoding an amino acid sequence according to SEQ ID NO: 8.

5. Claims: 5, 20 (complete), 12-15, 27-37 (partial)

subject-matter relating to a nucleic acid sequence according to SEQ ID NO: 9, encoding an amino acid sequence according to SEQ ID NO: 10.

6. Claims: 6, 21 (complete), 12-15, 27-37 (partial)

subject-matter relating to a nucleic acid sequence according to SEQ ID NO: 11, encoding an amino acid sequence according to SEQ ID NO: 12.

7. Claims: 7, 22 (complete), 12-15, 27-37 (partial)

subject-matter relating to a nucleic acid sequence according to SEQ ID NO: 13, encoding an amino acid sequence according to SEQ ID NO: 14.

8. Claims: 8, 23 (complete), 12-15, 27-37 (partial)

subject-matter relating to a nucleic acid sequence according

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

to SEQ ID NO: 15, encoding an amino acid sequence according  
to SEQ ID NO: 16.

9. Claims: 9, 24 (complete), 12-15, 27-37 (partial)

subject-matter relating to a nucleic acid sequence according  
to SEQ ID NO: 17, encoding an amino acid sequence according  
to SEQ ID NO: 18.

10. Claims: 10, 25 (complete), 12-15, 27-37 (partial)

subject-matter relating to a nucleic acid sequence encoding  
a 60 kD Mycobacterium avium subspecies paratuberculosis  
protein having a pI of 5,60-6,15.

11. Claims: 11, 26 (complete), 12-15, 27-37 (partial)

subject-matter relating to a nucleic acid sequence encoding  
a 33 kD Mycobacterium avium subspecies paratuberculosis  
protein having a pI of 4.20-4.75.